

a commutator operatively connected to the coils; and

a brush disposed in sliding contact with the commutator for shorting each coil during a commutation period to reverse a direction of current in the coil,

wherein each magnet has a main part and an extension part at an end of the main part to generate in the coil an induction voltage that counteracts a reactance voltage,

wherein the main part and the extension part have a similar uniform thickness;

wherein a magnetization in the extension part at an end side in a rotation direction of the armature is stronger than that at a boundary part between the main part and the extension part, and

wherein a magnetic dipole orientation in the main part is directed to a rotation axis of the armature, a magnetic dipole orientation in the boundary part between the main part and the extension part is directed to a radially outer side from the rotation axis of the armature and a magnetic dipole orientation in the end side of the extension part is directed to the rotation axis of the armature.

Please add the following new claims:

29. (New) The direct current motor of claim 21, wherein the extension part extends respective angular ranges each of which includes a commutation interval.

30. (New) The direct current motor of claim 21, wherein the extension part extends respective angular ranges each of which corresponds to an angular interval between two adjacent teeth of the armature on which the coils are wound.

31. (New) A direct current motor comprising:

an armature having a core and coils wound on the core;

magnets arranged to face each other through the armature;

a commutator operatively connected to the coils; and

a brush disposed in sliding contact with the commutator for shorting each coil during a commutation period to reverse a direction of current in the coil,

wherein each magnet has a main part and an extension part at an end of the main part to generate in the coil an induction voltage that counteracts a reactance voltage, and

wherein a magnetization in the extension part at an end side in a rotation direction of the armature is stronger than that at a boundary part between the main part and the extension part.

32. (New) A direct current motor comprising:

an armature having a core and coils wound on the core;

magnets arranged to face each other through the armature;

a commutator operatively connected to the coils; and

a brush disposed in sliding contact with the commutator for shorting each coil during a commutation period to reverse a direction of current in the coil,

wherein each magnet has a main part and an extension part at an end of the main part to generate in the coil an induction voltage that counteracts a reactance voltage, and

wherein a magnetic dipole orientation in the main part is directed to a rotation axis of the armature, a magnetic dipole orientation in a boundary part between the main part and the extension part is directed to a radially outer side from the rotation axis of the armature and a

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magnetic dipole orientation in an end side of the extension part is directed to the rotation axis of the armature.